

## INVENTOR SEARCH

=> fil dgene efull frfull gbfull genbank inpadocdb patdpafull pctfull uspatfull; d que l31; fil MEDLINE, PASCAL, NTIS, WPIX, PROMT, BIOSIS, BIOTECHDS, DPCI; d que l8; dup rem l8,l31

FILE 'DGENE' ENTERED AT 14:24:52 ON 01 JUN 2007

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L19            140 SEA HORN C?/AU  
 L20            20 SEA KISTNER A?/AU  
 L21            3 SEA GREYLING B?/AU  
 L22           3845 SEA SMITH A?/AU  
 L24           418 SEA 41125  
 L31           3 SEA (L19 AND L20 AND L21 AND L22) OR ((L19 OR L20 OR L21 OR  
                  L22) AND L24)

FILE 'MEDLINE' ENTERED AT 14:24:53 ON 01 JUN 2007

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L2            32 SEA 41125  
L4            701 SEA HORN C?/AU  
L5            138 SEA KISTNER A?/AU  
L6            9 SEA GREYLING B?/AU  
L7            36096 SEA SMITH A?/AU  
L8            3 SEA ((L4 OR L5 OR L6 OR L7) AND L2) OR (L4 AND L5 AND L6 AND L7)

DUPLICATE IS NOT AVAILABLE IN 'DPCI, DGENE, GENBANK'.  
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE  
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PROCESSING COMPLETED FOR L8  
PROCESSING COMPLETED FOR L31

L34            4 DUP REM L8 L31 (2 DUPLICATES REMOVED)  
              ANSWER '1' FROM FILE WPIX  
              ANSWER '2' FROM FILE DPCI  
              ANSWER '3' FROM FILE EPFULL  
              ANSWER '4' FROM FILE USPATFULL

=> d ibib ed ab 1-4

L34    ANSWER 1 OF 4    WPIX COPYRIGHT 2007            THE THOMSON CORP on STN DUPLICATE  
1  
ACCESSION NUMBER:    2004-132860 [13]    WPIX  
DOC. NO. CPI:        C2004-053066 [13]  
TITLE:                Novel Megasphaera elsdenii, biologically pure rumen  
                      bacteria has substantially same 16S ribosomal RNA of  
                      M.elsdenii deposited at NCIMB, Aberdeen, Scotland, UK at  
                      accession number NCIMB 41125, for treating  
                      rumenitis  
DERWENT CLASS:        B04; C06; D13; D16

INVENTOR: GREYLING B J; HORN C H; KISTNER  
A; SMITH A H  
PATENT ASSIGNEE: (AGRI-N) AGRIC RES COUNCIL; (KEMI-N) KEMIRA PHOSPHATES  
PTY LTD; (KEMH-C) KEMIRA PHOSPHATES OY  
COUNTRY COUNT: 104  
PATENT INFO ABBR.:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2004009104	A1	20040129	(200413)*	EN	92	[3]
AU 2003260142	A1	20040209	(200450)	EN		
EP 1523320	A1	20050420	(200527)	EN		
BR 2003012936	A	20050621	(200542)	PT		
CN 1681522	A	20051012	(200612)	ZH		
US 20060257372	A1	20061116	(200677)	EN		
NZ 537695	A	20070126	(200711)	EN		

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2004009104	A1	WO 2003-ZA93	20030715
AU 2003260142	A1	AU 2003-260142	20030715
BR 2003012936	A	BR 2003-12936	20030715
CN 1681522	A	CN 2003-821275	20030715
EP 1523320	A1	EP 2003-766052	20030715
EP 1523320	A1	WO 2003-ZA93	20030715
BR 2003012936	A	WO 2003-ZA93	20030715
US 20060257372	A1	WO 2003-ZA93	20030715
US 20060257372	A1	US 2005-521847	20051123
NZ 537695	A	NZ 2003-537695	20030715
NZ 537695	A	WO 2003-ZA93	20030715

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2003260142	A1 Based on	WO 2004009104 A
EP 1523320	A1 Based on	WO 2004009104 A
BR 2003012936	A Based on	WO 2004009104 A
NZ 537695	A Based on	WO 2004009104 A

PRIORITY APPLN. INFO: ZA 2002-5742 20020718

ED 20050528

AB WO 2004009104 A1 UPAB: 20060121

NOVELTY - A biologically pure bacterial culture of *Megasphaera elsdenii* (I) having substantially the same 16S ribosomal RNA sequence as that of the *M.elsdenii* strain deposited at NCIMB, Aberdeen, Scotland, UK at a accession number NCIMB 41125, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:  
(1) a composition for facilitating the adaptation of ruminants from a roughage-based diet to a high-energy concentrate-based diet, comprising (I);  
(2) a feed-additive (II) for ruminants comprising a carrier and (I);  
(3) a veterinary agent for the treatment of ruminal lactic acidosis and prophylacting any one or more disorders chosen from, ruminal lactic acidosis, rumenitis, ruminal lactic acidosis induced laminitis, ruminal lactic acidosis induced laminitis, ruminal lactic acidosis induced bloat and liver abscesses, comprising (I); (4) a preparation for the treating ruminal lactic acidosis and prophylacting any one or more disorders chosen from ruminal lactic acidosis,

rumenitis, ruminal lactic acidosis induced laminitis, ruminal lactic acidosis induced laminitis, ruminal lactic acidosis induced bloat and liver abscesses, comprising inoculum of (I) and a separate sterile anaerobic growth medium, the components of the preparation being disposed in separate chambers of an anaerobic container which are anaerobically connectable to each other, thus to inoculate the growth medium with the culture anaerobically; and  
(5) isolating (I).

ACTIVITY - None given.

MECHANISM OF ACTION - Prevents ruminal lactic acid accumulation. Effect of *Megasphaera elsdenii* isolates CH<sub>4</sub> in preventing ruminal lactic acid accumulation was analyzed as follows. The 12 ruminally-cannulated wether sheep were randomly divided into a treatment and a control group, each comprising six animals. All animals were fed roughage for 21 days. On day 21 they were fasted for 11 hours prior to being offered 1000 g of maize meal/animal and at the same time being dosed intra-uminally with 300 g of maltose syrup/animal. One hour later all maize not yet consumed by each animal was packed directly into its rumen. Immediately thereafter animals in the treatment group were dosed intra-uminally with 1x10<sup>11</sup> cfu of CH<sub>4</sub>, while animals in the control group were similarly dosed with cell-free filtrate of CH<sub>4</sub> preparation, i.e., CH<sub>4</sub>-free. Samples of rumen fluid were taken at two-hourly intervals, up to 12 hour post dosing, for determination of rumen lactic acid concentration. On analysis lactic acid concentration in rumen fluid of roughage-fed the sheep suddenly changed and lactic acid concentration (g/l) in CH<sub>4</sub> treatment group in different time period after CH<sub>4</sub> dosing (hour) at 0, 2, 6, 8, 10, 12 were found to be less than 0.1, 0.3, 0.8, 0.5, 0.4, 0.2 and in control group the concentration is less than 0.1, 1.4, 3.6, 5.2, 6.1, 5.9, respectively.

USE - (I) is useful for facilitating the adaptation of ruminants from a roughage-based diet to a high-energy concentrate-based diet, which involves administering (I) to the rumen of the ruminants. (I) is useful for treating ruminal lactic acidosis and prophylacting any one or more disorders chosen from ruminal lactic acidosis, rumenitis, ruminal lactic acidosis induced laminitis, ruminal lactic acidosis induced laminitis, ruminal lactic acidosis induced bloat and liver abscesses, which involves anaerobically administering (I) to the rumen of a ruminant. (I) is useful for achieving any one or more of the following improvements in ruminants namely increased milk production, improved feedlot performance, improved growth rate, decrease in finishing time, lower digestive morbidity and mortality, lower incidence of lactic acidosis and related diseases, improved feed conversion efficiency, decrease in roughage content in feeds, and capability to feed on relatively higher concentrate diets, which involves administering (I) to the rumen of a ruminant, where the culture is administered anaerobically (claimed).

ADVANTAGE - (I) has efficient ability to utilize lactate even in the presence of sugars, its resistance to ionophores, its relatively high growth rate, its capability to produce predominantly acetate, and its capability to proliferate at relatively low pH values below 5.0 and as low as 4.5 (claimed).

DESCRIPTION OF DRAWINGS - The figure shows the graph representing the growth rates of lactate utilizers at various pH values.

L34 ANSWER 2 OF 4 DPCI COPYRIGHT 2007 THE THOMSON CORP on STN

ACCESSION NUMBER: 2004-132860 [13] DPCI

DOC. NO. CPI: C2004-053066

TITLE: Novel *Megasphaera elsdenii*, biologically pure rumen bacteria has substantially same 16S ribosomal RNA of *M.elsdenii* deposited at NCIMB, Aberdeen, Scotland, UK at accession number NCIMB 41125, for treating rumenitis.

DERWENT CLASS: B04 C06 D13 D16

INVENTOR(S): GREYLING, B J; HORN, C H;  
KISTNER, A; SMITH, A H